

THE
Urban District Council of Enfield.

Annual Report

OF THE
MEDICAL OFFICER OF HEALTH,
FOR 1910,

TOGETHER WITH THE

ANNUAL REPORT

OF THE
INSPECTOR OF NUISANCES.

ENFIELD :

JAS. W. HATCH AND SON (T.U.) PRINTERS,

ENFIELD URBAN DISTRICT.

Area (including 112 acres water)	...	...	12,600 acres.
Population at census of 1901	...	...	42,738.
Population (estimated) at middle of 1910	...	...	58,282.
Number of inhabited houses...	...	...	10,894.

VITAL STATISTICS.

Birth-rate per 1,000 living	...	...	24·55.
Recorded Death-rate per 1,000 living	...	...	10·10.
Corrected Death-rate per 1,000 living	...	...	10·62.
Infantile Mortality per 1,000 births	83·15.
Zymotic Death-rate per 1,000 living	·52.



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PUBLIC OFFICES,
ENFIELD.

February 3rd, 1911.

Medical Officer of Health's ANNUAL REPORT FOR 1910.

To the Urban District Council of Enfield.

GENTLEMEN,

I have the honour to submit to you my Annual Report for the year 1910, which I trust you will find much more satisfactory in every respect than that of last year. The Report of your Sanitary Inspector, Mr. A. J. Munro, giving particulars of the work done in the Sanitary Department, is also incorporated.

In accordance with the Memorandum of the Local Government Board as to the Annual Reports of Medical Officers of Health, which inevitably leads to a certain amount of repetition each year, I propose in the first instance to give some particulars of the physical features and general character of the District, and condition of its population.

Enfield, one of the largest parishes in England, is situated ten miles North of London, and is bounded on the North by Hertfordshire, and on the East by Essex.

It contains 12,600 acres, including 112 acres of water, and naturally divides itself into three parts: the Western; mainly agricultural, with centres of population at Hadley Wood and Cockfosters, is situate on the London clay, and is hilly in character. The Central; including the Ridgeway, Old Town, Bush Hill Park, Clay Hill and Forty Hill, part of which is, like the Western, on the London clay, and the remainder soil of a loamy nature with

gravel below. There is a considerable population in the neighbourhood of the Town, partly of a residential and business, also industrial nature. Bush Hill Park is now almost entirely built upon, the inhabitants being mostly industrial.

The Eastern part of the District lies in the Lea Valley. The soil is of loam lying on a deep substratum of gravel. There are two principal centres of population, viz., Ponders End and Enfield Lock, and the inhabitants are mainly employed in local factories, horticulture and market gardening. In addition to the Royal Small Arms Factory at Enfield Lock there are the Corticine Works, the British Stone and Marble Company, Edison and Swan United Electric Light Company's Works, Enfield Gas Works, and the Metallic Tube Works, Ponders End; also the Imperial Lamp Works, North Metropolitan Electric Power Station, White Lead Works, and Ruberoid Works at Brimsdown, Enfield Highway. In addition to these there are many smaller works and steam laundries in the District.

POPULATION.

The population of Enfield at the census of 1901 was 42,738, and the estimated population at the middle of 1910 was 58,282. This is calculated on the basis of allowing 5·35 persons to the 10,894 inhabited houses.

Enfield is divided into six wards, as follows :—

Ward.	Inhabited Houses.	Uninhabited Houses.	Total.	Population.
Town & Cockfosters				
Wards ...	1477	134	1611	7,902
Chase ...	2361	223	2584	12,631
Ordnance ...	2614	134	2748	13,985
Green Street and Ponders End...	2384	148	2532	12,754
Bush Hill Park ...	2058	140	2198	11,010
	<hr/> 10894	<hr/> 779	<hr/> 11673	<hr/> 58,282

showing an increase on the previous year of 155 inhabited houses, and an increase of 9 uninhabited ones.

The housing accommodation, especially for the working class, appears to me, in view of these figures and from personal knowledge, to be quite adequate for the needs of the population of the District.

There are no back-to-back houses in the District, and the air-space about dwellings is generally sufficient, although I regret to say the cleanliness of the surroundings, in many cases due to the inaction or neglect of the tenants, leaves much to be desired, though it is hoped that by constant supervision this will eventually be remedied.

Plans of all new houses and alterations to buildings have to be submitted for the approval of the District Council, and the erection of dwellings and other buildings is closely supervised by the Council's Surveyor and Building Inspectors. The Bye-laws require that no house is to be occupied until the drainage has been completed, and the dwelling certified as in every respect fit for human habitation.

VITAL STATISTICS.

BIRTHS.

The number of births registered was :—

Boys.	Girls.	Total.
734	697	1431

including 39 illegitimate births, 20 male and 19 female.

This gives a birth-rate of 24·55 per thousand of the population, which shows a slight improvement on last year, but it is still considerably below what it ought to be ; the birth-rate for England and Wales for the year being 24·8.

DEATHS.

521 deaths were registered in the district during the year, 269 of these being males and 252 females, giving a crude death-rate of 8·93. To these must be added 89 deaths of residents of Enfield registered outside the district ; while 21 deaths of non-residents occurring in the district should be subtracted, giving a total of 589 deaths. This gives a recorded death-rate of 10·10, and a death-rate corrected for age and sex distribution of 10·62 per 1000, as against 13·4 (the lowest on record) for England and Wales for the same period.

The corresponding figures for the last three years were :—

		1907	1908	1909
Recorded Death-rate	...	11·68	11·18	11·62
Corrected Death-rate	...	12·9	11·76	12·22

Classifying the 589 deaths above mentioned, according to their sex and age, gives the following table:—

		Male.	Female.	Total.
Under 1 year	...	72	47	119
1 to 5 years	...	27	20	47
5 to 10 years	...	7	5	12
10 to 15 years	...	4	3	7
15 to 20 years	...	3	3	6
20 to 25 years	...	18	5	23
25 to 35 years	...	20	24	44
35 to 45 years	...	21	26	47
45 to 55 years	...	38	23	61
55 to 65 years	...	37	21	58
65 to 75 years	...	36	46	82
75 to 85 years	...	30	35	65
Over 85 years	...	5	13	18
		—	—	—
		318	271	589
		—	—	—

It is worthy of note that 45 deaths registered were of persons over 80 years of age, 17 being males and 28 females, whose ages ranged from 80 to 96 years, one woman dying at 96, another at 94, and a man at 93 years.

During the year 44 inquests were held. In 27 cases the deaths were certified as due to natural causes; and of the remaining 17, 11 were due to accident (these latter including two caused by motor-cars, two by railway trains, two by poisoning, one by drowning, and two infants suffocated by overlaying), and 6 to suicide (two by drowning, one by poisoning, one by shooting, one by cutting throat, and one by being run over by railway train).

INFANTILE MORTALITY.

The total number of deaths occurring among infants under one year old was 119, giving a death-rate of 83·15 per 1000 births. The corresponding figures for the last three years were:—1907, 116·6; 1908, 90·14; and 1909, 111·42.

This extremely low rate—much lower than in 1908 (90·14) when we congratulated ourselves on our good fortune—is something to be

extremely proud of, and it is really even better than it appears at first sight, for no less than half the deaths (54) were due either to premature birth, or debility and want of vitality following birth (causes over which there is no control).

The other chief causes of death were Pneumonia (12), and Diarrhœa (11).

The deaths for the last 10 years will be found in Table 1.

Table 2 gives the vital statistics for the District for 1910 and the previous 10 years.

Table 3 shows the cases of infectious disease notified during the year.

Table 4 gives the various causes of death at all ages, and Table 5 those under one year.

TABLE I.

Vital Statistics of Whole District during 1910 and previous Years.

Year.	Population estimated to Middle of each Year.	Births.		TOTAL DEATHS REGISTERED IN THE DISTRICT.				Total Deaths in Public Institutions in the District.	Deaths of Non-residents registered in Public Institutions in the District.	Deaths of Residents registered in Public Institutions beyond the District.	NET DEATHS AT ALL AGES BELONGING TO THE DISTRICT.	
		Number.	Rate.*	Under 1 Year of Age.		At all Ages.					Number.	Rate.*
				Number.	Rate per 1,000 Births registered.	Number.	Rate.*					
1	2	3	4	5	6	7	8	9	10	11	12	13
1900	43,394	1,186	27.0	172	145.0	614	13.7	71	9	—	605	13.7
1901	43,000	1,232	28.6	110	89.3	524	12.2	—	—	—	524	12.18
1902	44,162	1,354	30.6	174	127.1	608	13.5	—	12	—	596	13.5
1903	49,151	1,313	26.7	149	113.4	550	11.1	70	9	—	541	11.0
1904	49,699	1,427	28.7	226	158.0	641	12.8	67	16	1	626	12.8
1905	51,315	1,357	26.4	159	117.0	532	10.6	60	12	50	570	11.1
1906	52,797	1,334	25.2	148	110.0	579	10.9	90	36	51	594	11.2
1907	54,688	1,432	26.1	167	116.0	614	11.4	24	9	62	639	11.68
1908	56,185	1,420	25.18	134	90.1	621	11.05	131	60	64	625	11.18
1909	57,453	1,400	24.36	156	104.28	617	10.73	96	26	77	668	11.62
Averages for years 1900—1909	50,184	1,345	26.88	159	117.01	590	11.79	—	—	—	598	11.99
1910	58,282	1,431	24.55	109	75.47	521	8.93	87	21	89	589	10.10

*Rates in Columns 4, 8, and 13 calculated per 1,000 of estimated population.

Area of District in acres (exclusive of area covered by water), 12,488.
 Total population at all ages, 42,738 ; Number of inhabited houses, 7,988 ; Average number of persons per house, 5.37, at census of 1901.

TABLE II.
Vital Statistics for 1910 and previous years.

YEAR.		Popultion esti- mated to middle of the year.	Births registered.	Deaths at all Ages.	Deaths under 1 year.
1900	...	43,394	1,186	605	172
1901	...	43,000	1,232	524	110
1902	...	44,162	1,354	596	174
1903	...	49,151	1,313	541	149
1904	...	49,699	1,427	626	226
1905	...	51,315	1,357	570	159
1906	...	52,797	1,334	594	148
1907	...	54,688	1,432	639	167
1908	...	56,185	1,420	625	134
1909	...	57,453	1,400	668	156
Averages of Years 1900 to 1909. }		50,184	1,345	598	159
1910	...	58,282	1,431	589	119

TABLE III.

Cases of Infectious Disease notified during the Year 1910.

NOTIFIABLE DISEASES.	CASES NOTIFIED IN WHOLE DISTRICT.							Total Cases removed to Hospital.
	At all Ages.	At Ages—Years.						
		Under 1.	1 to 5.	5 to 15	15 to 25	25 to 65	65 and upwards.	
Small-pox	0	—	—	—	—	—	—	—
Cholera	0	—	—	—	—	—	—	—
Diphtheria (including Membranous croup)	105	1	20	55	20	9	—	80
Erysipelas	32	1	2	1	—	22	6	—
Scarlet Fever	156	1	44	95	12	4	—	141
Typhus Fever	0	—	—	—	—	—	—	—
Enteric Fever	4	—	—	1	2	1	—	2
Relapsing Fever	0	—	—	—	—	—	—	—
Continued Fever	0	—	—	—	—	—	—	—
Puerperal Fever	1	—	—	—	—	1	—	—
Plague	0	—	—	—	—	—	—	—
Pulmonary Tuberculosis:—								
Notified under Public Health (Tuberculosis) Regulations, 1908	10	—	—	1	1	8	—	—
Notified under arrangement for voluntary notification	33	—	—	2	10	21	—	—
Totals	341	3	66	155	45	66	6	223

TABLE IV.

CAUSES OF, AND AGES AT, DEATH DURING YEAR 1910.

CAUSES OF DEATH.	Deaths at the subjoined ages of 'Residents' whether occurring in or beyond the District.							Total deaths whether of 'Residents' or 'Non- Residents' in Public Institutions in the District.
	All Ages.	Under 1 year.	1 and under 5.	5 and under 15.	15 and under 25.	25 and under 65.	65 and upwards.	
Small-pox ... ..	...	...	...	...	..	...	...	...
Measles	3	...	3	...	...	...	...	...
Scarlet Fever	5	...	4	1	...	...	...	10
Whooping-cough	6	2	4	...	...	...	...	..
Diphtheria (including Membranous Croup)	6	...	6	...	...	...	...	5
Croup ... ..	...	...	...	...	...	...	...	...
Fever { Typhus ... ..	...	...	...	...	...	...	...	...
Enteric	1	...	...	...	...	1	...	4
Other continued	...	...	...	...	...	...	...	...
Epidemic Influenza	7	...	...	1	...	6	...	...
Cholera ... ..	...	...	...	...	...	...	...	...
Plague ... ..	...	...	...	...	...	...	...	...
Diarrhœa	12	12	...	...	...	...	...	...
Enteritis	11	8	3	...	...	...	...	1
Gastritis ... ..	...	...	...	...	...	...	...	...
Puerperal Fever	1	...	...	...	1	...	...	...
Erysipelas... ..	1	...	...	...	...	1	...	...
Phthisis	56	...	...	2	15	34	5	5
Other tuberculous diseases	20	4	7	4	...	5	...	4
Cancer, malignant disease	36	...	...	1	...	18	17	2
Bronchitis... ..	29	5	2	...	...	5	17	4
Pneumonia	41	12	6	1	1	13	8	3
Pleurisy	3	...	...	...	...	1	2	...
Other diseases of Res- piratory organs	7	...	2	1	1	2	1	1
Alcoholism {	7	...	...	...	...	7	...	...
Cirrhosis of Liver {	...	...	...	...	...	...	...	...
Venereal Diseases	1	1	...	...	...	...	...	...
Premature Birth... ..	30	30	...	...	...	...	...	...
Diseases and Accidents of Parturition	5	...	...	...	1	4	...	...
Heart Diseases	52	2	...	4	2	20	24	5
Accidents	14	3	1	1	...	7	2	2
Suicides	10	...	...	...	...	10	...	...
Diabetes	6	...	...	...	...	3	3	...
Apoplexy	29	...	...	...	...	13	16	6
Old Age	57	...	...	...	...	1	56	11
Bright's Disease	10	...	...	...	...	9	1	...
All other causes	123	40	9	3	8	50	13	24
ALL CAUSES	589	119	47	19	29	210	165	87

Deaths from stated causes in Weeks and Months under One Year of Age.

CAUSE OF DEATH.				Under 1 Week.	1-2 Weeks.	2-3 Weeks.	3-4 Weeks.	Total under 1 Month.	1-2 Months.	2-3 Months.	3-4 Months.	4-5 Months.	5-6 Months.	6-7 Months.	7-8 Months.	8-9 Months.	9-10 Months.	10-11 Months.	11-12 Months.	Total Deaths under One Year.	
ALL CAUSES.				{ Certified ...	30	9	7	3	49	14	12	8	8	1	2	3	7	9	4	2	119
{ Uncertified ...				...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
i. Common Infectious Diseases	Small-pox ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Chicken-pox ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Measles ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Scarlet Fever ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Diphtheria (including Membranous Croup)	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Whooping Cough	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	...	...	...	...	2
ii. Diarrhoeal Diseases.	Diarrhoea, all forms	...	...	...	1	...	...	1	1	3	1	2	...	...	1	...	1	1	...	...	11
	Enteritis, Muco-enteritis	...	...	...	...	...	...	...	3	...	...	5	...	...	...	...	1	...	...	...	9
	Gastro-enteritis	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Gastritis, Gastro-Intestinal Catarrh	...	...	...	...	...	...	...	1	1	...	...	...	...	...	...	...	...	...	...	2
iii. Wasting Diseases.	Premature Birth ...	...	...	21	3	4	...	28	2	...	...	...	...	...	...	...	...	...	...	...	30
	Congenital Defects	...	...	2	1	...	...	3	...	...	...	...	...	...	...	...	...	...	...	...	3
	Injury at Birth	...	...	1	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	1
	Want of Breast-milk, Starvation	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Atrophy, Debility Marasmus	...	...	4	2	2	2	10	3	3	2	...	1	1	1	...	2	...	1	...	24
iv. Tuberculous Diseases	Tuberculous Meningitis	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Tuberculous Peritonitis: Tabes Mesenterica	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	1
	Other Tuberculous Diseases	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	1	...	...	...	2
v. Other Causes.	Erysipelas ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Syphilis ...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	1
	Rickets ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Meningitis (not tuberculous)	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	1
	Convulsions	...	...	1	1	...	...	2	1	1	...	...	...	...	...	1	...	...	...	...	5
	Bronchitis ...	...	...	...	...	...	...	...	1	...	...	1	...	...	...	...	2	1	...	...	5
	Laryngitis ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Pneumonia	...	...	...	...	...	...	...	...	2	1	...	...	...	...	4	2	2	1	...	12
	Suffocation, overlying	...	...	...	...	...	...	...	...	2	1	...	...	...	...	...	...	...	...	...	3
Other Causes	...	...	1	2	...	1	4	...	...	2	...	...	...	...	1	...	...	...	...	7	
				30	9	7	3	49	14	12	8	8	1	2	3	7	9	4	2	119	

Population, estimated to middle of 1910, 58,282.

Births in the year { legitimate, 104
 { illegitimate, 39.

Deaths in the year of { legitimate infants }
 { illegitimate infants } 119.

Deaths from all Causes at all Ages, 589.

ZYMOTIC DISEASES.

The following table shows the deaths registered in the District from the seven chief zymotic diseases during the past five years. The figures for Scarlet Fever, Diphtheria and Enteric Fever include all the deaths that occurred at the Joint Board's Isolation Hospital, where patients belonging to other districts are also received.

	1906	1907	1908	1909	1910
Small Pox	0	0	0	0	0
Scarlatina	7	15	16	9	10
Diphtheria	6	15	53	26	7
Measles	11	10	6	33	3
Enteric Fever	3	1	2	6	5
Whooping Cough	7	12	3	9	6
Epidemic Enteritis	66	20	4	19	11
	100	73	84	102	42

The actual Enfield deaths were Scarletina 5, Diphtheria 6, and Enteric Fever 1.

ENFIELD ZYMOTIC DEATH-RATE.

The zymotic death-rate, after deducting eleven deaths of persons from outside the district who died in the Isolation Hospital (which is situate in Enfield) and adding one who died outside the district, is only $\cdot 52$ per 1,000, showing a very considerable decrease on the previous year ($1\cdot 48$), while it is also less than the figure for 1908, which was $\cdot 88$.

DISEASE.	1909		1910	
	Deaths.	Death-rate.	Deaths.	Death-rate.
Scarlatina	6	$\cdot 10$	5	$\cdot 08$
Diphtheria	19	$\cdot 33$	6	$\cdot 10$
Enteric Fever	0	$\cdot 00$	1	$\cdot 01$
Measles	33	$\cdot 57$	3	$\cdot 05$
Whooping Cough ...	9	$\cdot 15$	6	$\cdot 10$
Epidemic Enteritis...	19	$\cdot 33$	11	$\cdot 18$
	86	$1\cdot 48$	32	$\cdot 52$

A glance at these figures will show that this decrease is primarily due to fewer deaths from Measles, and secondly to less Diphtheria and Enteritis.

NOTIFICATION OF INFECTIOUS DISEASE.

The cases of infectious disease reported each quarter were as follows :—

	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.	Total.	Total num- ber of cases per 1,000 population.
Scarlatina ...	58	39	32	27	156	2·67
Diphtheria ...	47	43	9	6	105	1·80
Membranous Croup	0	0	0	0	0	·00
Enteric Fever ...	1	3	0	0	4	·06
Small Pox ...	0	0	0	0	0	·00
Erysipelas ...	6	7	8	11	32	·54
Puerpural Fever...	1	0	0	0	1	·01
	113	92	49	44	298	5·08

The following Table gives the number of cases of each infectious disease notified during the past five years :—

	1906	1907	1908	1909	1910
Scarlatina ...	259	353	202	283	156
Diphtheria ...	56	83	369	222	105
Membranous Croup ...	2	1	2	1	0
Enteric Fever ...	24	10	5	2	4
Small Pox ...	0	0	0	0	0
Erysipelas ...	45	30	36	31	32
Puerpural Fever...	2	1	3	4	1
	388	478	617	543	298

The subjoined table gives the Annual Birth and Death Rates, and deaths from the Principal Epidemic Diseases, in Enfield, and England and Wales for 1910, from which it will be seen that in every respect Enfield is in a most favourable position.

	England and Wales.	Enfield.
Birth Rate... ..	24·8	24·55
Recorded Death-rate per 1000 living	13·4	10·10
Corrected Death-rate per 1000 living	13·4	10·62
Infantile Mortality per 1000 Births	106·0	83·15
Zymotic Death-rate per 1000 living	·99	·52

I venture to think that these figures may be taken as proving that the Sanitary Authorities have not been wanting in the discharge of their duties to the inhabitants of the District, and that the latter may well congratulate themselves on their good fortune in living in so healthy and salubrious a suburb of London.

SCARLET FEVER.

There has been a very gratifying decrease in the number of Scarlet Fever cases notified during the year, as compared with the last five previous years which averaged 258·2 cases per year, and this is accompanied by an equally gratifying diminution in the death-rate.

The greater majority of the cases notified were removed and treated at the Joint Board's Isolation Hospital, Winchmore Hill, to the staff of which every credit is due for the very successful result of their treatment.

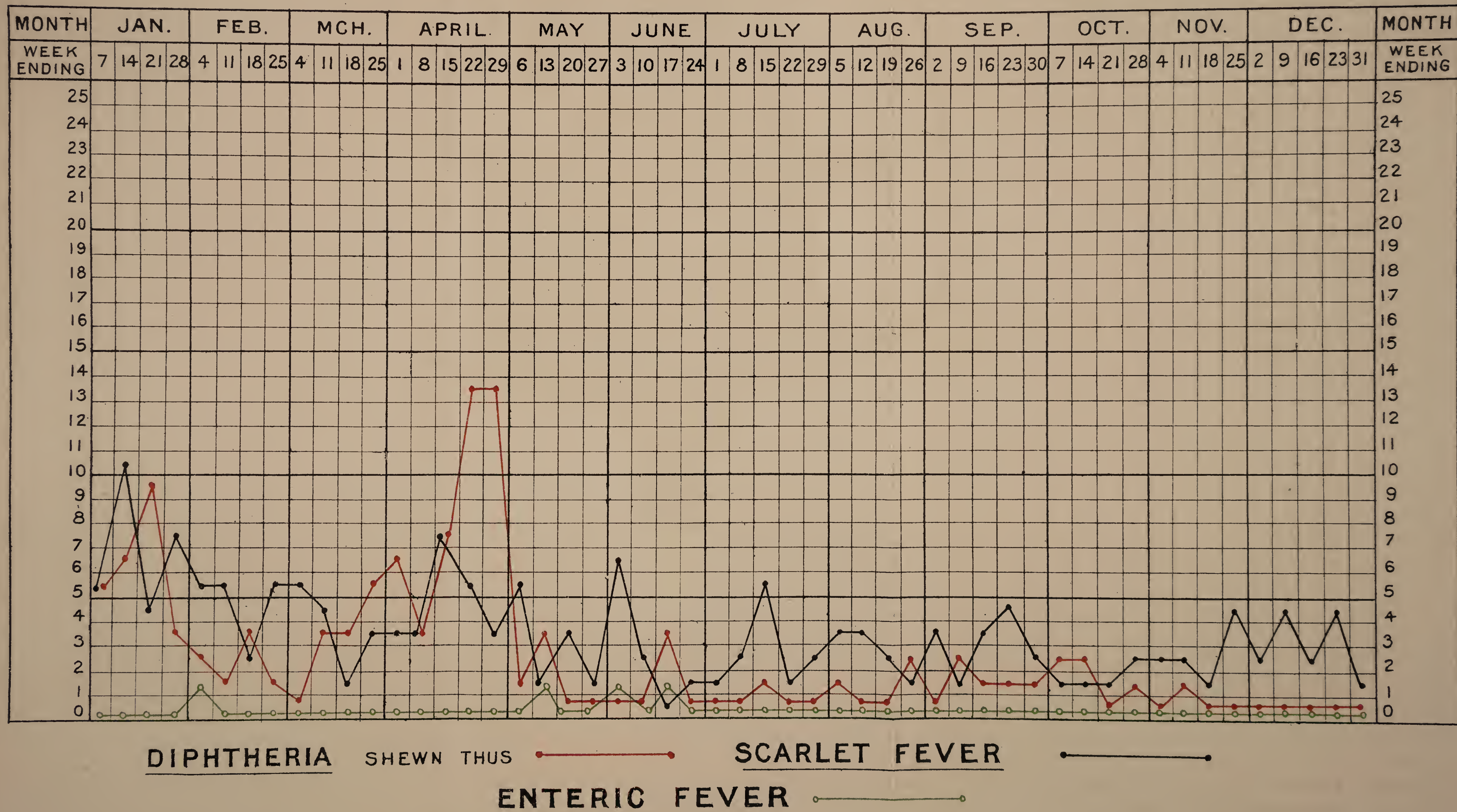
DIPHTHERIA.

During the latter part of 1909 this disease, from which the District had previously suffered severely, had commenced to abate, the notifications for the four quarters of that year being, 1st, 115; 2nd, 40; 3rd, 34; 4th, 33; a total of 222 for the year. This improvement I am glad to say, was not only fairly well maintained for the first two quarters of the present year, but in the third quarter there was a very satisfactory drop in the notifications which was followed by an almost complete disappearance of the disease from the District in the fourth quarter, as the following figures show:—1st quarter, 47; 2nd, 43; 3rd, 9; 4th, 6; no cases at all occurring during the last seven weeks of the year. A glance at the accompanying chart graphically exemplifies these figures.

In the early part of the year some few cases occurred in the neighbourhood of what is known as West Enfield, a part of the District which heretofore had been practically free from the disease, and this reached its climax in the month of April.

URBAN DISTRICT COUNCIL OF ENFIELD.

CHART SHEWING NUMBER OF CASES OF INFECTIOUS DISEASES
NOTIFIED DURING EACH WEEK OF THE YEAR 1910.



This, unfortunately, and to my mind needlessly, created a considerable amount of alarm among the residents, many of whom at once jumped to the conclusion that the cause of the trouble was to be found in the drains and sewers, which they alleged were not only defective, but also neglected by the Authorities.

As will be understood, this outbreak caused me a very considerable amount of anxiety, and I made several special reports on the subject to the District Council, from which I think I cannot do better than give the following extracts, as they will explain fully the various steps taken at the time by the Sanitary Authority.

“ February 8th, 1910.

“ The Council will be glad to observe a considerable diminution of cases of Diphtheria notified since my last report, shewing that the recrudescence of this disease then manifest has subsided, the last case having been notified so long ago as the 30th ultimo, and that one in the neighbourhood of Chase Side, being a man who a few days before had come as an out-of-work stranger into the Town, from a district where Diphtheria is said to have been prevalent.

“ I have closely investigated all the conditions and questions that have arisen in connection with the Diphtheria cases which have occurred, especially in the neighbourhood of West Enfield, and finding a number of houses implicated were supplied by one particular dairyman, I instituted a rigid examination of his employees and arrangements, together with the farms from which his milk is obtained for the supply of that District, and am pleased to be able to say that I satisfied myself the supply was quite above suspicion. The dairyman was most anxious to help in every particular, and in response to a suggestion of mine sent samples of his milk to the Public Health and Bacteriological Laboratory, 129, Southampton Street, S.E., to be examined. The following is a copy of the report received :—

“ ‘ Gentlemen,

“ ‘ I received from you on the 18/1/10 a sample of milk marked No 1, and have submitted it to a most rigorous examination and have especially searched for the presence of Diphtheria Bacilli. Both microscopically and culturally, I failed to detect any organisms having the slightest characteristics of Klebs-Löffler Bacilli, *i.e.*, Diphtheria Bacilli.

“ ‘ Yours faithfully,

“ ‘ G. S. BARTON.’ ”

“ From a careful consideration of the whole of the circumstances
 “ attaching to the cases that have occurred, I have been compelled
 “ to arrive at the conclusion that the infection did not arise from local
 “ conditions, but rather was due to personal contact, which may very
 “ likely have occurred at meetings or entertainments to which it was
 “ found most of the sufferers had gone. In support of this view I
 “ would mention that I have in more than one instance of late found
 “ cases where persons who had apparently recovered from an attack
 “ of Diphtheria and been certified as free from the disease, had some
 “ time afterwards shewn they were again infected with the true
 “ Bacillus, and consequently a source of danger to the public.

“ I have at present under observation a boy who was kept away
 “ from school for a day with slight sore throat ; on swabbing him
 “ I found the Diphtheria Bacillus, which has now continued for
 “ two weeks. This boy has shewn no clinical symptoms whatever.
 “ I have also another child suffering from a discharge from its ear,
 “ which discharge gives a pure culture of the same Bacillus.

“ From this it will be seen that it is more than probable, espec-
 “ ially as following the Christmas holidays when there was so much
 “ intercourse and movement among the people, that there would be
 “ many such unsuspected sources of infection about.

“ A close watch is kept with a view to safeguarding the public
 “ health, and I would assure residents there is no cause for alarm.”

“ March 23rd, 1910.

“ As the result of swabbing all contacts and suspicious-
 “ looking throats, I have been able to trace 3 diphtheria cases to
 “ ‘ Carriers,’ a still further proof of the suggestion made in my
 “ special report of March 9th (see Appendix, page 37) that ‘ Personal
 “ Contact ’ is the chief cause of these apparently sporadic cases.

“ All the cases were scattered, occurring as far apart as Enfield
 “ Lock and Hadley, showing there could be no direct connection
 “ between them ; but unfortunately the district is so large that cases
 “ miles apart are credited to Enfield, and so give the impression—a
 “ perfectly erroneous one—to people ignorant of the true state of
 “ affairs, that Diphtheria is still prevalent.

“ I am paying particular attention to all convalescents, and no
 “ child is allowed to return to school—no matter what length of
 “ time has elapsed since its recovery—until a negative swab shows
 “ that it is quite free from infection.

“ I should like to acknowledge the great assistance I have
 “ received from the School Medical Officer during the school term
 “ just terminating.”

“ April 27th, 1910.

“ Of 27 Diphtheria cases, 5 occurred in one house, and 2
 “ in each of five other houses.

“ 20 out of the 27 notified were diagnosed from positive swabs,
 “ presented little or no clinical symptoms, and were in consequence
 “ of an extremely mild type.

“ One of the cases occurred in a family which had only
 “ removed into the district the previous day, and on enquiry it was
 “ shown that this child had been ill a week previously.

“ Another case was that of a young lady—a dressmaker working
 “ in London—several other girls in the same place complained of
 “ sore throats, and on the day before she fell sick, the brother of a
 “ girl who sat next to her was taken to hospital suffering from
 “ Diphtheria.

“ Another child attended Herne Bay College, and on her return
 “ home for the holidays was found to be suffering from a nasal
 “ discharge. This was examined bacteriologically and proved to be
 “ swarming with Diphtheria Bacilli. Her brother unfortunately
 “ contracted the disease a few days later.

“ Three of the cases notified occurred in houses where children
 “ who had been suffering from Scarlet Fever, had quite recently
 “ returned home from hospital.

“ As I have already mentioned all these cases were of a very
 “ mild type, and I think I am justified in saying that a very small
 “ percentage of them would have been diagnosed, had it not been
 “ for the very sweeping bacteriological examinations which have
 “ been carried out.

“ Many of the cases belonged to what may be called Bacteri-
 “ ological Diphtheria in contra-distinction to Clinical Diphtheria,
 “ that is cases which present no evidence of disease beyond the
 “ bacilli in their throat or nose, but which are highly infective and
 “ which should certainly be isolated, though there is a great doubt
 “ in my mind as to whether they should be notified.”

“ May 11th, 1910.

“ There appears to be a general impression that Diphtheria is at present rife in the neighbourhood of the Ridgeway, and I hope that the figures given above will not only dispel that idea, but will also reassure the people that Enfield taken as a whole is practically free of Diphtheria at present.

“ A point that I wish to draw attention to has probably not received the attention it merits. The parish of Enfield is a very extensive one, 12,600 acres in extent, measuring $7\frac{1}{2}$ miles by $3\frac{1}{4}$. Its area is larger than that of Edmonton, Tottenham, Wood Green, and Southgate taken together.

“ It is, therefore, quite possible, and in fact has occurred before now, that two cases may be notified the same day seven or eight miles apart, and be debited in the weekly returns to “ Enfield,” whereas two similar cases might have occurred, one in Edmonton and one in Hendon without giving rise to comment from anyone.

“ Some complaints having been received as to offensive smells noticed in the neighbourhood of the Ridgeway, I personally investigated the matter, but did not find anything calculated to be a danger to health or likely to cause Diphtheria. The condition of the sewers has also received my close attention and every care is being taken to keep them in proper order and condition ; while the Council are also aware that arrangements have been made for the provision of extra means of ventilation at the head of certain branch sewers. A serious difficulty has, however, arisen as it is found that no one cares to have a vent shaft erected near their property, especially when—as they state—the need for such vent has not appeared to them.

“ The public health of the District and especially the question of cases of Diphtheria occurring (which latter however is not confined to Enfield alone, as the disease is unfortunately prevalent in many places both near and throughout the country) is receiving the constant and unceasing attention both of myself and all your officers, and the public may rely on everything being done to protect their health.

“ I may add that the matter having been mentioned to Dr. Young, County Medical Officer, by a member of the County Council, he came down to Enfield and had an interview with me ; he also inspected the neighbourhood of the Ridgeway and various

“ parts of the Town and on leaving expressed himself as perfectly
 “ satisfied that everything necessary to meet the case was being done.

“ I conclude this report by quoting a paragraph from a report
 “ made by me to you on March 9th, which emphasises a point not
 “ generally appreciated by the public.

“ ‘ My experience in connection with Diphtheria has more and
 “ ‘ more forced me to the conclusion that it is to personal contact
 “ ‘ rather than to any general or local insanitary conditions that we
 “ ‘ must look for the determining factor in this disease, and that the
 “ ‘ few cases which now and again still crop up are due to that cause.’ ”

“ May 25th, 1910.

“ You will, no doubt, note with satisfaction that only one case
 “ of Diphtheria has been notified during the past fortnight, bringing
 “ the number for the month of May so far up to four, and a total
 “ since April 27th of five, with no deaths.

“ You may remember that on March 9th, I made a special
 “ report dealing with a series of cases of Diphtheria, which in my
 “ opinion tended to show that the factor of personal contact was a
 “ most important one, and I now propose reporting further on this,
 “ and to show the steps your sanitary officials take in order to meet
 “ the danger, and prevent as far as is possible the spread of the
 “ disease.

“ When a case of Diphtheria is notified, the house is at once
 “ visited and full inquiries made, a special form being used for the
 “ purpose. All necessary steps are taken to secure the isolation of
 “ the patient either by immediate removal to Hospital or otherwise,
 “ disinfectants are supplied, also the necessary examination and
 “ disinfection of premises carried out. Other children in the house
 “ are excluded from school, and all other precautions which may in
 “ my opinion be necessary are at once carried out. All information
 “ obtained is immediately followed up, and in every case necessary I
 “ either interview the medical man in attendance or visit the house,
 “ in order to obtain swabs of all contacts and suspicious cases. The
 “ question of school attendance at the same time receives my close
 “ attention.

“ Inquiries are also made daily at any school implicated, and by
 “ arrangement with the teachers all children absent from school
 “ through illness or uncertain cause are at once reported to me,

“ when, if I find they have not been seen by any medical man I
 “ visit them immediately, and if necessary swab them, with the
 “ result that I find on looking through our records that since
 “ October, 1909, I have had to take no less than 358 swabs from
 “ such cases, 43 of which showed true Diphtheria germs, 34 false
 “ Diphtheria, while the remainder were negative.

“ All these infectious and suspicious cases were promptly
 “ isolated, also watched carefully by me, and not allowed to mix with
 “ other children until I had satisfied myself they were quite free
 “ from infection.

“ To give an idea of the trouble and anxiety some of these cases
 “ entailed I had to pay no less than 63 visits to five of them.

“ During this time I was also very actively assisted by the
 “ School Medical Officer, who sent me 53 swabs, 9 of which contained
 “ true Diphtheria Bacilli, 2 false Diphtheria Bacilli, and the re-
 “ mainder negative.

“ There can be no doubt that the discovery of these infectious
 “ cases was a most important one, as the great majority of the
 “ children were apparently quite well, and in fact in not a few cases
 “ the parents were most indignant at the suggestion that their
 “ children were infectious, and not only refused to adopt my
 “ suggestion to send to their medical attendant, but were with
 “ difficulty prevailed upon to isolate them. Had it not been for
 “ bacteriological examination these children would have attended
 “ school in the ordinary way, and without doubt have been the
 “ means of spreading the disease far and wide, several of the cases
 “ notified having undoubtedly derived their infection from these
 “ carrier cases as a reference to my special report of March 9th
 “ (page 37) will show.

“ Further, I may mention the outbreak which occurred in
 “ St. Andrew's Infants' School in October, 1909, when on visiting
 “ many absentees and taking swabs of suspicious cases and contacts
 “ I found in five days no less than seven children harbouring
 “ Diphtheria Bacilli, and since all the cases then found were cleared
 “ up, this school has remained free from infectious disease.

“ Moreover, although cases of Diphtheria have occurred since in
 “ other schools, more especially at Chase Side, I feel I am justified in
 “ concluding that my action has resulted not only in preventing the
 “ necessity for closing the schools, but also very considerably limiting

“ the spread of infection, as shown from the fact that the neighbour-
 “ hoods affected are now free from this disease.

“ At the same time it is gratifying to myself to find that the
 “ practice of swabbing contacts and carefully isolating all suspected
 “ cases, which I instituted last year and found especially successful
 “ in connection with the infants’ school mentioned, has, unknown
 “ to me (until I had seen Annual Reports from other districts)
 “ been found equally successful by other Medical Officers of Health

“ I am also pleased to find that it is gradually being appreciated
 “ by the public, as evidenced by a case which occurred recently,
 “ where a mother, the wife of a working man, declined to allow her
 “ child to be removed to the Isolation Hospital as suffering from
 “ Diphtheria, until a swab had been taken.

“ While every effort will continue to be made to maintain the
 “ sanitary condition of the district in the highest possible state of
 “ efficiency, I feel, especially having regard to the fact that people
 “ apparently perfectly well may have Diphtheria germs in their
 “ throat or nose, and others who have been ill may for months
 “ after an attack (as it is now known) be infectious, that the practice
 “ of swabbing which I have found so successful, should be followed
 “ in connection with every case found to occur after this. also with
 “ all who have in any way been in contact with the patients,
 “ whether at home or school, including all members of the same
 “ household. This swabbing to be repeated when necessary until
 “ at least two negative swabs have been obtained, and I am satisfied
 “ all infection is removed.

“ July 11th, 1910.—“ The last case of Diphtheria was notified
 “ on June 15th, and as only four cases have occurred in the last two
 “ months, I think I am justified in saying that Enfield is now free
 “ from the disease.

“ “I think the extensive throat swabbing which was carried
 “ out in April and May has effectually disposed of all ‘Carrier’
 “ cases. At present I only know of one child falling under that
 “ category, and she is being most carefully watched.”

“ July 27th, 1910.—“ This Diphtheria case, the only one notified
 “ since June 15th, was without doubt an imported one. The child had
 “ a sore throat on the day she arrived in the district on a visit to
 “ friends, and duly developed Diphtheria a few days afterwards.”

“ Nov. 9th, 1910.—“ Diphtheria appears to have died out nearly

“altogether, only two cases having been notified in the last month, and one of these was apparently infected from the other. Several cases of septic sore throat, closely simulating Diphtheria clinically, have come to my notice lately, but the diagnosis has been satisfactorily cleared up by bacteriological examination, thus emphasising the value of such examinations, and suggesting the advisability of swabbing every case before a definite diagnosis is made.”

“Dec. 14th, 1910.—“You will, no doubt, be pleased to be reminded that the last case of Diphtheria was notified on November 7th, and at present I only know of one ‘Carrier’ case in the district, and I am taking every precaution with this one.”

It will be noticed from the perusal of these extracts that frequent reference is made to “Carriers,” and I therefore think it will be of interest to include as an appendix (page 37) to this, a copy of my special report of March 9th, 1910.

In addition to the cases mentioned in that special report the following will give some idea of the anxiety and work cast on the Medical Officer of Health by these “Carrier” cases :—

- No. 1. J. H. 10 swabs taken. Eight positive, alternating with negatives followed by two final negative.
- No. 2. T. W. 9 swabs. Two positive, 1 Hoffman, alternating with six negative.
- No. 3. I. W. 18 swabs, 15 of which varied either as positive or negative, and only the three last being negative in succession.
- No. 4. J. W. In March gave two positive swabs, and again at end of year was found infectious, though in the interval was non-infectious.
- No. 5. B. M. 18 swabs taken. 3 positive, 9 Hoffman. This case had been discharged from hospital some two months previously, apparently well, had not returned to school, and was only discovered to be infectious when a playfellow was notified as suffering from Diphtheria.

I could prolong such cases almost indefinitely, as these have been taken from a list of 53 similar ones which during the year came under my notice.

The fact that I discovered so many “Carrier” cases—cases which I may say were found during the course of my personal

inquiries, and not notified in the ordinary way—will, I venture to suggest, go far to account for the rapid drop in Diphtheria, which we experienced after the first quarter, and is a further proof of the truth of my contention that the prevalence of this disease was due to “personal contact” and not to the extraordinary sanitary defects from which it was alleged Enfield suffered.

LOCALITY.

The total of 105 cases were distributed among the various wards as follows :—

	Town, Hadley and Cockfosters.	Chase.	Bush Hill Park.	Green Street.	Ordnance.
Notifications ...	29	63	10	0	3
Deaths... ..	2	3	0	0	1
Percentage of notifications per 1,000 population in Ward	3.6	4.9	.9	.0	.2

Unfortunately the Chase Ward again heads the list for the year, although it shows a very distinct improvement on the previous year, when 115 cases were notified, and a reference to the table on page 24 will show that very few cases occurred in the Ward during the last six months of the year.

It will be observed that a large number of the cases were brought to my notice from April 15th to 29th, and on looking back to page 17 it will be seen that in my report to the Council dated April 27th, I pointed out that 20 out of the 27 cases were diagnosed as the result of positive swabs, presented little or no clinical symptoms, and were therefore what are known as “Carrier” cases.

The Town Ward comes second on the list, and much the same remarks will apply to the cases occurring there in April.

Ordnance Ward, which has been prominent for the last few years in this list, shows a much more satisfactory condition, only three notifications having been received from there, as compared with 50 in the previous year; while the much maligned Green Street and Ponders End Ward comes out the best of all, being without a case for the whole year.

TABLE REFERRED TO ON PAGE 23.

Wards in which cases of Diphtheria occurred during 1910.

Week ending.	Town Ward.	Chase Ward.	Bush Hill Park Ward.	Green Street and Ponders End Ward.	Ord-nance Ward.	Hadley and Cock-fosters Ward.	Totals.
Jan. 7	1	2	2	...	...	...	5
14	6	...	...	...	...	...	6
21	2	7	...	...	...	...	9
28	1	2	...	...	...	...	3
Feb. 4	1	1	...	...	...	...	2
11	...	1	...	...	...	...	1
18	1	1	1	...	...	...	3
25	...	...	1	...	...	...	1
Mar. 4	...	...	...	...	...	...	0
11	2	...	...	...	1	...	3
18	1	1	...	...	...	1	3
25	...	5	...	...	...	...	5
Apr. 1	1	2	1	...	...	2	6
8	...	2	...	...	...	1	3
15	...	6	...	...	1	...	7
22	1	10	1	...	1	...	13
29	6	7	...	...	...	...	13
May 6	1	...	...	...	...	...	1
13	...	2	1	...	...	...	3
20	...	...	...	...	...	...	0
27	...	...	...	...	...	...	0
June 3	...	...	...	...	...	...	0
10	...	...	...	...	...	...	0
17	...	3	...	...	...	...	3
24	...	...	...	...	...	...	0
July 1	...	...	...	...	...	...	0
8	...	...	...	...	...	...	0
15	...	...	1	...	...	...	1
22	...	...	...	...	...	...	0
29	...	...	...	...	...	...	0
Aug. 5	...	...	1	...	...	...	1
12	...	...	...	...	...	...	0
19	...	...	...	...	...	...	0
26	...	2	...	...	...	...	2
Sept. 2	...	...	...	...	...	...	0
9	...	2	...	...	...	...	2
16	...	1	...	...	...	...	1
23	...	...	...	...	...	1	1
30	...	1	...	...	...	...	1
Oct. 7	...	2	...	...	...	...	2
14	...	1	1	...	...	...	2
21	...	...	...	...	...	...	0
28	...	1	...	...	...	...	1
Nov. 4	...	...	...	...	...	...	0
11	...	1	...	...	...	...	1
18	...	...	...	...	...	...	0
25	...	...	...	...	...	...	0
Dec. 2	...	...	...	...	...	...	0
9	...	...	...	...	...	...	0
16	...	...	...	...	...	...	0
23	...	...	...	...	...	...	0
31	...	...	...	...	...	...	0
	24	63	10	...	3	5	105

SCHOOLS.

As is usually found, most of the cases reported were children of school age, and though, as I have said, many could only be classed as "carriers" yet I felt it was necessary to give close attention to the schools in order to secure the exclusion of every possible suspect, and in this connection I made no less than 470 visits to children in their own homes, who were absent from school either as suspicious cases, contacts with Diphtheria, or discharged from Hospital, and awaiting permission to return to school. I was also ably assisted by Dr. Gaffikin, the School Medical Officer, who, as in previous years, readily gave me valuable assistance and was ever ready to co-operate with me in every step I felt it necessary to take for the protection of the schools.

Happily there was no occasion to consider the question of closing any of the schools during the year, but following the usual routine, disinfection of buildings was carried out whenever I thought the precaution necessary.

I should like to take this opportunity of thanking the head-teachers of the various schools for the way in which they assisted me during the year, by continually watching that the children attending the schools were in good health, and by excluding and reporting to me all suspicious cases of illness, particularly those of sickness and sore throat.

MILK SUPPLY AT AFFECTED HOUSES.

For my remarks in regard to this reference should be made to my report to the Council of February 8th, on page 15, which was the only occasion during the year when it appeared necessary to especially inquire into this.

SANITARY CONDITION OF AFFECTED HOUSES.

The practice of making a careful inspection of each house affected was continued, and I am pleased to say that the defects found were much less numerous than in former years; this, no

doubt, being due to the persevering work of the Sanitary Inspector and his assistants, which has been continued for so many years with undoubted benefit to the District.

I received 1,087 swabs during the year for bacteriological examination. Of these, 128 were positive, and 957 negative, giving a percentage of 10·85 positive swabs, against 18·3 for 1909. Thirteen positive and 56 of the negative swabs also contained Hoffman's Bacillus. I regarded these 56 cases as suspicious ones, and insisted on their isolation until two successive negative swabs showed that they were free.

It occurs to me that the large number of negative swabs may perhaps be thought by some people to cast a doubt on the ability of medical men in the district to diagnose cases of Diphtheria, and I therefore feel it to be my duty to mention that a large number of these were taken by myself when engaged in searching for "carrier" cases, and visiting suspects, while many of the remainder were of "contacts" or from suspicious sore throat.

PULMONARY TUBERCULOSIS.

43 cases of this disease were notified during the year, but as these notifications are mainly voluntary, they afford no reliable indication as to the number of cases actually living in the district, and this view is supported by the fact that in many instances the first information of a case I receive is from the weekly death returns.

Every case known is visited, printed instructions given as to precautions necessary, disinfectants and spitting bottles supplied; but unfortunately I have no means at my disposal for providing what is in many cases extremely necessary, and that is financial assistance and suitable nourishment, or removal to a Sanatorium.

Following the removal or death of a patient, the house and all articles that have been exposed to infection are disinfected, and otherwise treated in the same way as adopted for other infectious diseases.

I examined 35 specimens of sputum for the presence of Tubercle Bacillus, and unfortunately found it in eleven of them.

The following table shows the number of cases of Pulmonary Tuberculosis notified during the year in the various wards :—

	Chase.	Town.	Bush Hill Park.	Green St. and Ponders End.	Ordnance.	Totals.
Voluntary Notifications } Notified under Public Health (Tuberculosis) Regulations, 1908. }	6	1	3	12	11	33
	3	—	—	2	5	10
	—	—	—	—	—	—
	9	1	3	14	16	43
	—	—	—	—	—	—

ENTERIC FEVER.

There was a slight increase in the number of notifications of this disease on the previous year (four as compared with two).

In the early part of the Summer my attention was called to several suspicious cases which arose in different parts of the district. These I submitted to the Widal test with the result that 5 proved not to be Enteric Fever, and one was shown to be of a rather unusual type of the disease, viz: Para-Typhoid B.

The fact that Enteric Fever has been practically non-existent in Enfield for so many years should be a source of great assurance to the inhabitants of the district, that the system of drainage is adequate and well looked after, and that the public water supply is above suspicion.

EPIDEMIC ENTERITIS.—SUMMER DIARRHŒA.

Although at no period of the year did this disease give rise to any feeling of uneasiness I felt, having regard to the thoughtlessness usually displayed by a certain class of the community, that it was advisable to take the precaution to recommend the Council to again distribute hand-bills giving information and advice in a simple form as to the precautionary measures necessary to be taken to prevent this disease; accordingly 2,000 of these bills were distributed in July. At the same time your Sanitary Staff gave extra attention to the condition of the back yards and gardens, the flushing of drains and removal of refuse.

REMOVAL OF CASES TO HOSPITAL.

The following cases of infectious disease were removed to the Enfield and Edmonton Joint Board's Isolation Hospital, Winchmore Hill :—

Scarlet Fever	...	...	141
Diphtheria	...	...	78
Enteric Fever	...	...	2
			<hr/>
			221
			<hr/>

In addition to the above, two cases of Diphtheria were taken to the Cheshunt Isolation Hospital.

METHOD OF DISINFECTION—ROOMS, ETC.

Rooms are sprayed with Formalin, and also fumigated with Formalin gas or sulphur. Owners or occupiers are also required to strip and cleanse rooms in all cases where patients have been isolated at home, or where otherwise necessary.

Bedding and other articles that cannot be properly washed and boiled are disinfected in a Washington-Lyons steam disinfecting apparatus. This apparatus stands at the Council's sewage farm. Two vans are used, one for conveying the infected articles from houses to disinfecting station, and the other for returning them.

WATER SUPPLY.

With the exception of Hadley and Cockfosters, which derive their supply of water from the mains of the Burnet Gas and Water Company, the district is almost entirely supplied by the Metropolitan Water Board. There are, however, some private wells still in use. I examined 19 samples from these, and found 17 unfit for drinking and domestic purposes. This is a very high percentage of contaminated water, and I think it may be as well for me to mention that in making these examinations I use the water as regularly supplied from the mains of the Metropolitan Water Board as my standard, and although I do not expect surface wells to equal this, I found that in the great majority of the cases, the sample was either what practically amounted to diluted sewage, or so hard as to be unfit for drinking and domestic purposes.

In the case of wells, the water from which was found to be contaminated, fourteen were closed and a supply laid on from the mains of the Metropolitan Water Board, while of the remaining three, two were cleansed, and in place of the other a fresh source of supply was arranged.

HOUSING AND TOWN PLANNING ACT.

Orders were on my recommendation issued by the District Council under this Act, requiring the closing of four cottages situate at Enfield Highway, as being in my opinion in such a condition as to be unfit for human habitation.

These cottages were vacated and closed. Following this they passed into the hands of a new owner by sale, owing to the death of the previous holder. The question as to whether demolition will be necessary is still to be considered by the Council.

The new Order and Regulations dated September 2nd, 1910, issued by the Local Government Board under Section 17 (1) of this Act, in regard to the Inspection of District, duly received the consideration of the Council. The necessary inspection books and registers have been provided and a commencement made with the inspections as required. Particulars of these will in compliance with the requirements of the order be included in future Annual Reports.

MILK AND FOODS.

The various cowsheds, dairies and milk-shops have received very special attention on my part during the year. The total number of cow-keepers is 20, who own some 379 cows, and I regret to say that the general impression left on my mind after several inspections of their premises is not altogether a very satisfactory one.

The British dairy-farmer as exemplified by his Enfield prototype appears to be of an extremely cautious and conservative disposition, with an inclination to consider that what was good enough for his ancestors in the dim and distant ages of the past is quite sufficiently good enough for him in the year of grace 1910. He regards with semi-tolerant contempt such fads (as he thinks them) of the Sanitary Authorities as washing of cowshed floors, limewashing walls, grooming and cleaning of cows, washing hands before milking and wearing overalls during the operation;

and although he does not actively oppose them, adopts a *non possumus* attitude, which makes him a rather difficult individual to deal with effectually.

As stated in my report last year the Council have made arrangements for the veterinary examination of all milch cows in the District, and I now append copies of the two reports of the veterinary surgeon, Mr. H. H. Hide, M.R.C.V.S., which are satisfactory.

2nd May, 1910.—“I beg to report that during March and April I inspected the whole of the milch cows in the district, as shewn in the accompanying list.

“I made a careful examination of each cow, particularly with regard to the udder and teats, and found them all free from tubercular or other infectious diseases of those regions. There are a few cases of simple mammitis and induration of the udder from all of which samples of the milk were taken for bacteriological examination, but in no case was the Tubercle Bacillus found to be present.

“I also found a few cases of Mange, a not uncommon disease among cattle at this period of the year, after being herded together throughout the winter, but all were under treatment and on the road to recovery.

“The health and condition of the cows was satisfactory and there is evidence of considerably greater attention being paid to cleanliness in the herds. Several of the owners are beginning to realise the importance and advantage of grooming the skin and washing the udder before milking, though this is still far from being general.

“In conclusion I would like to state that the general improvement noticed indicated the advantage of periodical inspection.”

December 14th, 1910.—“I beg to report that I have completed the inspection of the whole of the milch cows in the district, as shown in the accompanying list, and the result shows them to be in a satisfactory condition.

“There was no case of tuberculosis of the udder among them, and the number of those of ordinary mammitis and induration of the quarter such as one expects to find on examining a large number of cows was considerably less than on previous visits.

“This, I think, may be attributed to the system of periodical inspection which I find induces the owners of animals showing permanent udder lesions to dispose of them at an earlier stage of the disease.

“The cows generally are well kept and there is a distinct improvement in the matter of grooming and cleanliness, many of the owners realising the pecuniary benefit of the process in the increased yield of milk and well-being of the animals, but this is still far from being general.”

I am glad to be able to report a very considerable improvement in the sanitary condition and general cleanliness of the milk-shops and dairies where the milk is retailed, some of them are above criticism and in all there appears to be a really earnest desire on the part of the proprietors to comply with the bye-laws and regulations laid down for their guidance and for the benefit of the consumers.

Bakehouses and Slaughterhouses have also been repeatedly inspected, and their condition is on the whole satisfactory, having regard to the fact that some of the premises have been in use for many years, but every endeavour is being made to bring them up-to-date, a process which naturally takes some considerable time to accomplish.

A close watch is kept on the condition of the meat and other articles of food sold in the district, and it is the duty of Mr. Fred Wilson (the First Assistant to the Inspector of Nuisances) who holds the certificate of the Royal Sanitary Institute for Meat and Foods, to visit the slaughterhouses (of which there are seventeen in the district) as far as possible during the times of slaughtering, and also see that the meat exposed for sale in the various shops and markets is of good quality.

During the year 23 parcels of organs found to be diseased were condemned and destroyed.

HOUSE REFUSE.

This work is carried out by the Council's own staff, a weekly collection being made now throughout the greater part of the district. Part of the stuff collected is disposed of to brickmakers, and the remainder taken to the Council's depot at Carterhatch Lane, where it is levelled and covered with earth.

NUISANCES, ETC.

It will be seen from the particulars given in the Report of the Inspector of Nuisances that a large amount of work has been carried out during the year in securing the removal of nuisances, and improvements in the sanitary condition of the dwellings.

In consequence of the diminution in the number of cases of Diphtheria, the Sanitary Inspector and his Assistants have had considerably more time to devote to this portion of their duties, with the result that a very much larger number of inspections of dwellings have been made, to the immediate and future benefit of the inhabitants.

INFECTIOUS DISEASE.

When a case of infectious disease is notified, the house is at once visited and full inquiries made, and all necessary steps taken to secure the isolation of the patient either by immediate removal to hospital or otherwise, disinfectants are supplied, also the necessary examination and disinfection of premises carried out. Other children in the house are excluded from school, and all other precautions which may in my opinion be necessary are at once carried out.

It will be of interest for me to mention that notifications are usually left by hand, or come by post to the Offices, but in many cases the Medical man in attendance telephones immediately on becoming aware that he has an infectious case to deal with.

The following special arrangements have also been made to remove and deal with cases notified out of office hours:—An Inspector attends when the Office is closed, on Saturdays at 5 p.m., and on Sundays and Holidays at 9.30 a.m. and 4 p.m. In the intervals notifications and swabs may be left with the Caretaker at the main entrance.

The arrangement adopted in 1908 for the supply of Anti-toxin to the local Medical men for the poorer inhabitants of the district has been continued, and following the receipt of an Order of the Local Government Board I issued the following circular to the Medical profession, which explains itself:—

“ October 22nd, 1910.

“ Dear Sir,

“ Adverting to my letter of the 27th ultimo, I am desired
 “ by my Council to mention for your information that the Local
 “ Government Board have recently issued an Order authorising the
 “ Council to arrange for the provision of a supply of Anti-toxin for
 “ the poorer inhabitants of their district, and for its use both as a
 “ prophylactic and a curative agency.

“ As heretofore, Anti-toxin both in 1,000 and 2,000 units can
 “ be obtained free of charge on application at the Public Offices, or
 “ in cases of emergency either at my residence, St. James' Lodge,
 “ Enfield Highway, or at the Sanitary Inspector's, 12, Fyfield Road.

“ The Local Government Board state in their letter accompany-
 “ ing the Order, ‘ that the prompt administration of Anti-toxin
 “ ‘ before the patient is removed to Hospital may,—especially if
 “ ‘ delay in removal is inevitable,—go for towards preventing the
 “ attack of Diphtheria from being fatal, and also advise that in any
 “ circular letter which the Council send out to Medical Practitioners,
 “ ‘ emphasis should be laid on the importance of prompt
 “ ‘ treatment by Anti-toxin, and of the saving of life which may
 “ ‘ thereby be effected.’

“ I am sure you already appreciate the importance of such
 “ action as is now suggested by the Local Government Board, and I
 “ trust to have your continued and valuable co-operation so that full
 “ advantage may be taken of the Order, and the ready use of the
 “ Anti-toxin obtained.

“ Yours faithfully,

“ W. P. WARREN,

“ Medical Officer of Health.”

VACCINATION.

I received the following figures from Mr. Inns, the Vaccination Officer, in respect of children vaccinated during the year :—

Number of cases on lists ...	...	1417
Vaccinated ...	...	792
Exempted ...	...	334
Carried forward ...	...	291

From this it will be seen that little more than 50 per cent. of the children have been vaccinated.

Let us hope that the parents of the exempted infants will not have reason to regret their temerity in the future.

POLLUTION OF STREAMS.

Turkey Street Brook and other streams in the District are kept under observation by the sanitary staff, but the only source of pollution found necessary to deal with has been the carelessness of some of the inhabitants in emptying slop-water down surface drains which communicate with the brooks, instead of into those connected with the proper sewers. In such cases a warning has usually been found sufficient to put a stop to the practice.

METEOROLOGY.

For several years past we have been indebted to the courtesy of Mr. John McEwan, F.R. Met. Soc., for all the information we required on this subject, but it was felt that the time had now arrived to inaugurate a meteorological station of our own. The Council agreed to purchase the following instruments :—

1. Standard Fortin Barometer.
 1. Maximum Thermometer
 1. Minimum Thermometer
 1. Standard Hygrometer
 1. Campbell-Stokes Sunshine Recorder.
 1. Rain Gauge.
 1. Solar-Radiation Thermometer.
 1. Terrestrial Radiation Thermometer.
 1. Earth Thermometer.
- } in Stevenson's Screen.

These have been installed at the Public Offices, and commencing with the first of the New Year, daily records will be taken.

SEWERAGE.

As was reported last year, the fifth filter at the Sewage Farm has been brought into operation, and has given a satisfactory effluent during the year, so that now these five filters are steadily dealing with the sewage.

Mr. R. Collins (the Council's Surveyor) also informs me that the following new sewers have been constructed during the year :— 9in. sewers in Napier Road, Ponders End ; Lavender Hill and the Ridgeway.

The surface water culvert is being extended from Little Park to Parsonage Lane.

Complete surface water drainage has been provided to Southbury Road.

Three extra ventilating sewer lamp columns have been fixed on the highest points of sewers in the neighbourhood of the Ridgeway and several ordinary upcast ventilating shafts have been erected in various parts of the district.

PRIVATE ROADS AND STREETS.

The following private roads have been laid out :—Old Park Avenue, Radcliffe Avenue, Maxim Road, Vera Avenue (continuation of), and Rofa Road (part of), Grange Park Estate ; Lawson Road, Enfield Highway (extension) ; and Kingsway, Ponders End (extension).

The following streets have been metalled, channelled and paved, &c., under Section 150 of the Public Health Act, 1875 :—Armfield Road (part of) ; part of Old Park Grange, The Chine and The Grangeway, Grange Park Estate ; Abbey Road and part of Main Avenue, Bush Hill Park : Suffolk Road, and part of Falcon Road and Napier Road, Ponders End ; Rotherfield Road, Enfield Wash ; also Craddock Road, Southbury Road.

The bridge over the New River in Church Street has been widened ; a part of Ordnance Road has also been improved by the construction of a retaining wall ; 150 yards of Lincoln Road have been kerbed and channelled ; the footpath from Lincoln Road to East Crescent has been tar-paved ; and the Ridgeway was tar-sprayed for a considerable distance, with the view of preventing dust.

Park Farm, otherwise known as " Hilly Fields," situate in the Chase Ward, having an area of over 62 acres, has been purchased for a park.

During the year allotments have been provided on the Council's gravel-pit site in Carterhatch Lane, Forty Hill.

The electric tramway from Ponders End to the east side of Enfield Town (G.E.R.) station is practically complete.

185 houses have been certified as completed, and fit for human habitation.

Two new factories have been built, and certificates of completion have been issued in regard to 71 other buildings and additions.

I am pleased to again have the opportunity to reiterate my sincere thanks to Mr. John McEwan, F.R.Met.Soc., of "Carisbrooke," Bycullah Park, not only for the use of his valuable meteorological records, but also for the great interest he displayed and assistance he afforded me in the choice and selection of the meteorological instruments already alluded to.

This report would be incomplete did I not set on record my appreciation of the ready and willing help I have at all times received from the members of the Medical profession practising in the District. The power of a Medical Officer of Health for effecting any good and useful purpose, is largely dependent on the cordiality of the relations existing between himself and his professional brethren, and I very gladly avail myself of this opportunity of thanking them one and all for the ever-ready assistance (rendered, I am afraid, often at great personal inconvenience) they have given me on every possible occasion.

I once again express my indebtedness to Mr. A. J. Munro, your Sanitary Inspector, for placing his extensive knowledge of the District at my disposal. Without his help I should have found it a difficult matter to discharge the onerous duties of my office to your satisfaction or to my credit.

I am also glad to acknowledge the zeal and attention paid to their duties by all the other members of the Sanitary staff, who I know have ably and readily co-operated in all that has been done.

Yours obediently,

WILLIAM PENNEFATHER WARREN, D.P.H.,

Medical Officer of Health.

APPENDIX.

Public Offices,
Enfield.

SPECIAL REPORT.

March 9th, 1910.

To the Chairman and Members of the Urban District Council of
Enfield

Gentlemen,

As one of the cases of Diphtheria now reported is the third of a series in which I have found there has been direct communication between the patient and children who had some time previously suffered from Diphtheria, and were looked upon as recovered, but have been found to be the subjects of recurrent infection, I have thought it worth while to prepare the following special report.

You are doubtless aware that the notification of every fresh case of Diphtheria forms the starting point of a strict investigation by me of all probable and possible causes of infection, as under the Order of the Local Government Board of March 23rd, 1891, it is part of the duty of the Medical Officer of Health "to inquire into and ascertain by such means as are at his disposal, the causes, origin and distribution of disease within his district."

My experience in connection with Diphtheria, and especially during the late epidemic, has more and more forced me to the conclusion that it is to personal contact, rather than to any general or local insanitary conditions, that we must look for the determining factor in this disease, and that the few cases which now and again still crop up are due to that cause.

The results of some investigations carried out by me I venture to think support this view, and are in my opinion sufficiently interesting to warrant embodiment in this short special report. These refer to three families residing in different parts of the District, No. 1, in Town Ward, No. 2, in Bush Hill Park Ward, and No. 3, in Ordnance Ward.

PARTICULARS *re* W's CASES. TOWN WARD.

1909.

- June 30. Jessie W., aged 9 years, notified with Diphtheria and moved to Hospital.
July 3. Swab of Bertie—Negative.
July 7. Swab of Mrs. W.—Negative.

- July 12. Swab of Mrs. W.—Negative.
 July 24. Jessie returned from Hospital.
 Aug. 12. Mrs. W. notified with Diphtheria and removed to Hospital. Discharged September 6th.
 Aug. 14. Swab of maid, Emily S., found to contain “False” Diphtheria Bacilli. Case to be kept isolated.
 Aug. 20. Swab of Jessie W.—Negative.
 Oct. 12. Dorothy M., 9 years, living next to above, notified with Diphtheria. Attended Upper Grade School. Discharged from Hospital, Nov. 16th, 1909.
 Nov. 10. Jessie W. again notified with Diphtheria from Great Ormond Street Hospital. Removed from there to North Eastern Hospital.
 Nov. 11. Swab of maid, Emily S., now positive. Notified as Diphtheria and removed to Hospital, but no clinical symptoms in case.
 Swabs taken and reported :—
 Nov. 11. Bertie—Negative.
 George ,,
 Mrs. ,,
 Allen ,,
 Reginald ,,
 Gladys ,, but want another swab.
 Nov. 17. Gladys ,,
 1910.
 Jan. 6. Jessie W. returned from North Eastern Hospital.
 Jan. 13. Rosalie E., 7 years, notified with Diphtheria, attended Upper Grade School, playing with Jessie W. on January 8th.
 Jan. 14. Swab from Jessie W. (Nasal)—Negative.
 Jan. 14. Swab from Florence H. (maid at W’s a week) reported positive. Notified as Diphtheria and moved to hospital. Discharged February 12th, 1910.
 Jan. 15. Swab from throat of Jessie.—No K.L.B., but doubtful.
 ,, ,, ,, Negative.
 Jan. 15. Swab of Gladys W.—Negative.
 *Swab of Reginald W.—Positive (from ear.)
 Jan. 17. Swab from Jessie W.—Doubtful.
 Feb. 3. ,, ,, Negative
 Feb. 3. *Swab from Reginald.—Positive (from ear.)
 Feb. 12. Florence H. discharged from hospital, but went straight away for a few days, returning to W’s, February 16th.

*Reginald W’s ear first commenced to discharge in the second week of November, 1909, and the case has been under medical treatment since December 26th, 1909.

Feb. 15. Reginald W., notified as Diphtherial Otorrhœa, and removed to hospital.

Feb. 19. Swab from five W's., and Florence H.—Negative.

April 1. Reginald W., swab from ear.—Positive.

Found on inspection on June 30th, 1909, that bath waste untrapped. A new trap has since been fixed.

Manhole cover not fitting properly, February 1910. Promised attention.

In this case Jessie was infectious again on November 10th, if not earlier, and most probably conveyed the infection to her mother in August, to Dorothy M. in October, to the maid and Reginald W. in November, and to Rosalie E. and Florence H. in January.

Although Reginald's throat swab was negative in November, I think it may fairly be inferred that he was infectious at that time, as, on enquiry, I find his ear began to discharge the second week of that month, but no particular notice was taken of it, until on January 15th a suggestion was made that a swab should be taken, which on culture gave an almost pure growth of Kleb's Lœffler Bacilli.

PARTICULARS *re* CASES OF DIPHTHERIA AT W's, BUSH HILL PARK WARD.

1909.

Nov. 1. Lily W., aged 7 years, attending Upper Grade School. Notified as Diphtheria after a positive swab.

Nov. 1. Arthur W., St. Andrew's Boys' School.
Leslie W., St. Andrew's Infants' School.
Notified as suffering from Diphtheria, swabs taken having proved positive.

Nov. 2. Albert W., St. Andrew's Boys' School.
Notified as suffering from Diphtheria, after a positive swab.

Nov. 3. Three swabs from other members of the family sent by Dr. M., reported negative.

Nov. 6. Gladys W., 2 years, notified as having Diphtheria. (Does not attend school).

Nov. 9. Margaret C. (maid at W's) notified as Diphtheria, after a positive swab taken Nov. 8. No clinical symptoms.

Nov. 27. Albert, Leslie and Arthur discharged from hospital.

Dec. 14. Lily W. discharged from hospital.

1910.

Jan. 7. Gladys W. discharged from hospital.

Jan. 11. Following swabs taken and reported negative :—Arthur, Leslie, William, Albert and Lily.

- Jan. 11. Lily W., resumed school. (Upper Grade.)
 Feb. 24. Lilian A, 8 years, notified as having Diphtheria. Attended Upper Grade School, and is a playmate of Lily W.
 Feb. 26. Swab of Lily W. reported positive. No clinical symptoms.
 Feb. 28. Leslie, William and Arthur W's swabs negative.
 Mar. 7. Lily W's swab—positive.
 Stopper in clearing eye of interceptor was found to be loose and the manhole defective. The storage cistern and gulley also needed cleansing. All these matters have received attention.

These cases would be in connection with the outbreak which occurred amongst the children attending St. Andrew's Infant School in November last, which I have already reported on, and were no doubt infected by one of the "Carrier" cases I detected at the time. Here, within $2\frac{1}{2}$ months of leaving hospital, this little girl has again been found infectious.

PARTICULARS *re* CASE DIPHTHERIA A.T.W's.

ORDNANCE WARD.

1909.

- Aug. 1. Bertie W., 8 years, notified with Diphtheria. Attending Chesterfield Road School, Standard 2a. Case removed to hospital.
 Nov. 19. Above case discharged from hospital.
 Dec. 31. Arthur J., $6\frac{1}{2}$ years. Notified with Diphtheria. Attended Chesterfield Road Infants' School and was Bertie W's playmate.

1910.

- Jan. 1. { Swabs from Bertie W.
 { Nose, Hoffman ; Throat, positive.
 { No clinical symptoms, except a slight running from nose.
 Jan. 5. Swab from Bertie W. Hoffman.
 Jan. 12. Swabs from two children W. Negative.
 Jan. 14. Swab from Bertie W. Hoffman.
 Jan. 18. „ Positive,
 Jan. 22. „ Positive.
 Jan. 31. „ Hoffman.
 Feb. 3. „ Negative.
 Feb. 7. „ Hoffman.
 Feb. 28. „ Hoffman.
 Mar. 7. „ Negative.

W.C. drain found to be defective and pan insanitary. Storage cistern needed cleansing. These matters were attended to at once.

PARTICULARS *re* CASE DIPHTHERIA AT J'S, IN SAME ROAD, AND
REFERRED TO ABOVE.

1909.

Dec. 31. Arthur J., 6½ years, notified with Diphtheria after swab proving positive. Attends Chesterfield Road Infants' School. Was a playmate of Bertie W.

Dec. 31. Swabs from Mr., Mrs., and Baby J.—all Negative.

1910.

Feb. 10. Arthur J. discharged from Hospital.

Feb. 17. Swab from Arthur J.—Negative.

The following defects were found to exist, and at once remedied :—Roof defective, sink waste short, curb to gulley needs raising, no gutters to w.c. roof; downpipe at rear short, w.c. floor defective.

These cases are particularly interesting from the fact that all three children, Jessie W., Lily W., and Bertie W., although undoubtedly free from the disease when discharged from Hospital, all proved to be in a highly infectious condition, or in other words were found to be harbouring Kleb's Loeffler Bacilli, 3½, 2½, and 1½ months afterwards respectively, and did, as a matter of fact, infect other children.

From the reports of the School Medical Officer it is known that a large number of children in Enfield suffer from sore and relaxed throats, enlarged ragged tonsils, and adenoids, and as a consequence are in a most favourable condition for contracting Diphtheria, should they be so unfortunate as to be exposed to infection. The necessity (with the help and co-operation of the School Medical Officer and other medical men in the district), of keeping a close watch and securing a periodical swabbing both of all convalescents from this disease, and of all other suspicious cases of sore throat found to occur in the schools, is, I feel, a matter of great importance in preventing the spread of disease, and maintaining the health of the District.

NOTE.—In this and the previous cases the children found to be infectious, or suspected as being the cause of further outbreaks, have either been removed to hospital, or kept under strict isolation and treatment at home.

In the above results of swabs, Kleb's Loeffler Bacilli, K.L.B. and "Positive" all signify one and the same thing, *i.e.*, true Diphtheria Bacilli. "Hoffman" signifies "false" Diphtheria Bacilli.

PUBLIC OFFICES,

ENFIELD,

February 3rd, 1911.

Report of the Inspector of Nuisances for year 1910.

To the Chairman and Members of the

Urban District Council of Enfield.

GENTLEMEN,

I beg to submit my report as follows, for the year ending December 31st, 1910, giving particulars of the work done under my supervision in connection with your Sanitary Department.

Inspections.

Houses inspected from house to house ...	1,129
" " in connection with Infectious	
Disease	474
Other houses and premises inspected ...	492
18 factories	79
136 workshops and workplaces, including 13	
laundries	506
33 outworkers' premises inspected ...	52
44 bakehouses in the district, of which 40 are in use	383
17 slaughter-houses, inspected frequently. Total	
number of visits	389
35 cowsheds inspected frequently. Total number	
of visits	355
59 dairies and milkshops inspected frequently.	
Total number of visits	417
30 schools inspected frequently. Total number of	
visits	232
57 shops where ice-cream is made. Total number	
of visits	123
Public-house urinals inspected ...	48
Conveniences at railway stations inspected ...	8
Fish-shops. Total number of visits ...	56
Coffee and eating houses. Total number of visits ...	23
Employment of Children Act. Visits ...	86
Other inspections, including works in progress,	
also visits in connection with cases of infectious	
disease, etc.	14,823
Smoke observations	29
	<hr/>
	19,704
	<hr/>

Notices issued :—

For repairs to drains, and abatement of nuisances	208
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Under Infectious Diseases Act :—

To occupiers	161	
To schools	1,729	
				<hr/>	1,890
					<hr/>
					2,098
					<hr/>

Letters sent :—

In lieu of notices	...	...	...	1,187	
Other letters	...	...	...	2,454	
				<hr/>	3,641

Houses and parts of houses cleansed, repaired etc.	...	321
Roofs repaired	...	180
Gutters and downpipes repaired	...	392
Cesspools emptied	...	193
Cesspools abolished, and new drains laid to sewer	...	8
House drains cleared, repaired etc.	...	291
House drains tested, examined, etc.	...	311
House drains re-constructed	...	55
Soil-pipes and drains ventilated, including repairs to ventilators	...	118
Sink waste pipes disconnected or repaired	...	25
Closets provided with proper flushing cisterns or water supply	...	216
New closets provided	...	10
Closets repaired, covered, cleansed, etc.	...	248
Storage cisterns repaired, covered, cleansed, etc.	...	98
Water laid on or restored	...	32
Samples of water taken	...	19
New storage cisterns provided	...	29
Wells cleansed	...	1
Wells closed	...	13
Yards paved, or existing paving made good	...	312
Ventilation provided under ground floors, and causes of dampness removed	...	57
Dustbins repaired, or new ones provided	...	299
Manure heaps removed	...	75
Fowls and other animals removed	...	14
Stables etc., cleansed	...	8
Other nuisances abated	...	28
Ditches cleaned out	...	5
Cases of overcrowding abated	...	25

Houses disinfected :—

After infectious disease	...	...	247	
After Phthisis	...	...	54	
After Cancer	...	...	3	
			<hr/>	304
Rooms stripped and re-papered, etc., after occupation by cases of infectious disease	...	...		87
Articles of clothing, bedding, etc., disinfected after infectious disease	...	...	3,309	
Articles of clothing, bedding, etc., destroyed	...	...	36	
			<hr/>	3,345
Articles of clothing, bedding, etc., disinfected after Phthisis	...	...	459	
Articles of clothing, bedding, etc., destroyed after Phthisis	...	...	20	
			<hr/>	479
Articles of clothing, bedding, etc., disinfected after Cancer	...	...		16
				<hr/>
Total number of articles disinfected or destroyed				3,840
				<hr/>
Library books disinfected	...	...	...	62
Cases of Scarlet Fever removed to Hospital	...	...	141	
„ Diphtheria	„	„	80	
„ Enteric Fever	„	„	2	
			<hr/>	223
Gipsy vans removed from District	...	...	...	301
Articles or parcels of unsound food destroyed	...	...	...	95

From these particulars it will be seen that we have found it possible during 1910 to secure the inspection of a greatly increased number of dwellings (1129) as against 941 in 1909, and the majority of the defects found to exist were remedied before the end of the year.

REMOVAL OF HOUSE REFUSE.

The removal of house refuse has received close attention, 6,647 loads having been collected and taken to the Council's shoots or disposed of to brickmakers.

FACTORY AND WORKSHOPS ACTS, 1901 AND 1907.

A register of all workshops is kept, and at the end of 1910 there were 123 workshops, 13 laundries and 44 bakehouses (including one underground bakehouse) registered.

These have all been inspected several times in the year, and the following contraventions were found requiring action, which was taken :—

W.Cs. put in order	...	...	...	...	23
Workshops and bakehouses cleansed and limewashed	...				57
Other nuisances abated	...	...	...	...	21

HOMEWORK.

Fifteen lists have been received giving addresses of outworkers, also 35 addresses of outworkers from other districts. Twelve addresses of outworkers have been forwarded to other districts.

Inspections were made of the residences of all outworkers living in this district.

EMPLOYMENT OF CHILDREN ACT, 1903.

During the year 373 names were received of children employed out of school hours, and in 142 cases contraventions of the Bye-laws were found and remedied.

MILK.

Frequent inspections have been made of the dairies and milkshops in the district, in order to see that the requirements of the Dairies, Cowsheds and Milkshops Orders, and the Regulations in force in the district were complied with.

ICE CREAM.

57 shops where ice-cream was made or sold were inspected during the Summer, 123 visits being made to them, and where necessary instructions given in regard to the cleansing of utensils and premises.

COFFEE AND EATING HOUSES.

During the year an inspection was made of all the Coffee and Eating Houses, when the premises and arrangements were generally found in good order and condition.

UNSOOUND FOOD.

A regular inspection has been made of meat slaughtered and offered for sale in the district, including the stalls in the markets each week.

37 parcels of organs were found to be affected with disease. These were surrendered by the owners and destroyed.

On Christmas Eve I seized fifteen turkeys, seven rabbits, a duck and a fowl, which were exposed for sale in front of a shop, and afterwards obtained a Magistrate's order for their destruction. Prior to the printing of this report proceedings were taken before the Magistrates, and penalties enforced amounting (with costs) to Seventeen Pounds, Five Shillings.

The following articles were also submitted for inspection, and as in each case it was found that they were unfit for the food of man, certificates to that effect were given, so that the owners could secure the return of the money paid, from the wholesale traders :—

Jan. 4th	...	...	2 cases of rabbits.
„ „	...	...	2 cases of rabbits.
Feb. 23rd	...	...	1 case of coal-fish.
„ 24th	...	...	7 coal-fish.
May 21st	...	...	2 boxes of mackerel.
July 14th	...	...	1 box of hake.
Aug. 12th	...	...	1 trunk of chats.
Sept. 30th	...	...	1 trunk fresh haddock.
Oct. 1st	...	...	2 rabbits.
„ 17th	...	...	1 basket of shrimps.
Dec. 6th	...	...	37 rabbits (frozen).
„ 17th	...	...	1 box salted herrings.

HOUSE DRAINAGE.

It will be seen that a large number of house drains have been tested, also cleared and repaired. All new work has been closely supervised, and in every case possible tested with water during its progress, while a final test with smoke and water is also applied on completion.

PUBLIC ELEMENTARY SCHOOLS.

By an arrangement between the Council and the Education Committee, I have all the sanitary arrangements attached to the non-provided schools regularly cleansed and flushed each day, while we also make periodical inspections of the sanitary conveniences at the provided schools, and report as to their condition to the Education Committee.

The staff of the Sanitary Department now consists, in addition to myself, of the following officers :—

Mr. Fred Wilson, 1st Assistant.

Mr T. M. Boswell, 2nd Assistant.

Mr. Noel Smith, 1st Clerk.

Mr. S Coulter, 2nd Clerk.

Mr. H. Wiggett, 3rd Clerk.

I am glad to be able to take the opportunity afforded by this report to acknowledge and thank them for the continued help and co-operation given me throughout the year, and for the real interest displayed in their work.

I must also include in this acknowledgment Mr. J. Ellis, and the other members of the outdoor staff connected with this Department.

I am, Gentlemen,

Your obedient servant,

A. J. MUNRO, M.R.San.I.,

Inspector of Nuisances.

